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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,263	11/12/2003	John S. Laudo	BAT 0064 PA/40078.252	6864

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Dayton, OH 45402-2023

EXAMINER

DOAN, JENNIFER

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/706,263

Applicant(s)

LAUDO, JOHN S.

Examiner

Jennifer Doan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-47 and 51-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 51-63 is/are allowed.
- 6) ☒ Claim(s) 2-7, 14, 15, 17-26, 37 and 67-69 is/are rejected.
- 7) ☒ Claim(s) 8-13, 16, 27-36, 38-47 and 64-66 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's communication filed on January 5, 2006, has been carefully studied by the Examiner. The arguments advanced therein are persuasive. However, in view of scrutiny of the claims, it is discovered that the Chen et al. (U.S. Patent 5,228,103) reference is good to apply; therefore, a new rejection is set forth below. This action is **not** made final.

Specification

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 2-7, 14, 15, 17-26, 37 and 67-69 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. (U.S. Patent 5,228,103).

With respect to claims 2 and 3, Chen et al. (column 5, lines 34-41) disclose an integrated optical device, wherein at least a major portion or substantial portion of the waveguide body comprises an optical amplification medium.

With respect to claim 4, Chen et al. (figure 5) disclose an integrated optical device, wherein the waveguide body (25) and the spectral combiner/divider (30) are configured such that at least a portion of the optical signal (10) propagating to the spectral combiner/divider (30) and at least a portion of the optical signal propagating from the spectral combiner/divider propagate through the optical amplification medium (see figure 5).

With respect to claims 5 and 26, Chen et al. (figure 5) disclose an integrated optical device, wherein the primary input /output channel (10, 40), the spectral combiner/divider (30), the set of displaced input/output channels define a folded optical path along which the optical signal propagates and the optical amplification medium is present along multiple legs of the folded optical path (see figure 5).

With respect to claim 6, Chen et al. (figure 5) disclose an integrated optical device, wherein the spectral combiner/divider (30) is configured such that substantially all of the optical signal (10) propagating to and from the spectral combiner/divider (30) in the waveguide body (25) propagates through the optical amplification medium.

With respect to claims 7 and 22-24, Chen et al. (figure 5) disclose an integrated optical device, wherein a substantial portion of the optical signal in the primary input output channel (10, 40), and the set of displaced input/output channels propagate through the optical amplification medium and are defined in the waveguide body (25) by

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input/output structure formed within the waveguide body or at an interface with the waveguide body or optically coupled to the waveguide body (see figure 5).

With respect to claims 14 and 17, Chen et al. (figure 5) disclose an integrated optical device, wherein the spectral combiner/divider (30) is coupled and secured to the boundary of the waveguide body (25).

With respect to claim 15, Chen et al. (figure 5) disclose an integrated optical device, wherein the spectral combiner/divider (30) is formed at an interface with the boundary of the waveguide body (25).

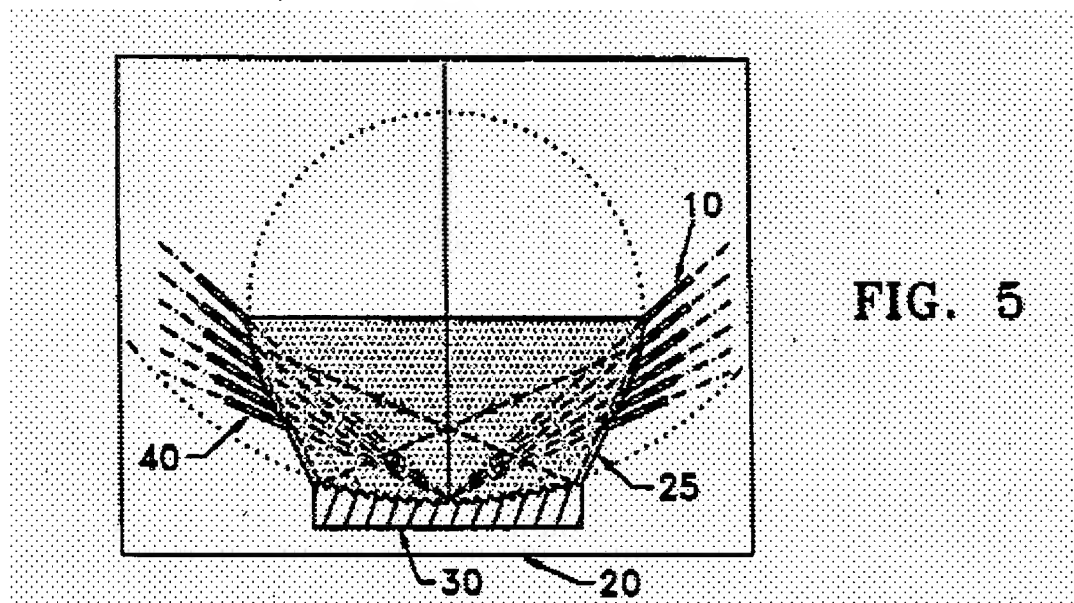
With respect to claim 15, Chen et al. (figure 5) disclose an integrated optical device, wherein the spectral combiner/divider (30) is formed integral with the waveguide body as an extension of the waveguide body (25).

With respect to claims 19-21, Chen et al. (figure 5) disclose an integrated optical device, wherein the spectral combiner/divider comprises a reflective grating structure (30), which is secured to the waveguide body (25) at a curved interface with the waveguide body (25).

With respect to claim 25, Chen et al. (figure 5) disclose an integrated optical device, wherein the displacement of each of the displaced input/output channels includes distance and direction components.

With respect to claim 37, Chen et al. (figure 5) disclose an integrated optical device, wherein the primary input/output channel (10, 40) defines a multidirectional path propagating through the optical amplification medium (see figure 5).

With respect to claims 67-69, Chen et al. (figure 5) disclose an integrated optical device comprising an optical signal (10) having multiple spectral components; a waveguide body (25) configured to permit propagating of the optical signal, wherein at least a substantial portion of the waveguide body comprises an optical amplification medium (column 5, lines 34-41); a spectral combiner/ divider (30) near a boundary of the waveguide body (25), wherein the spectral combiner/ divider is configured such that a spatial distribution of an optical signal propagating to and from the spectral combiner/ divider lies in the plane of the waveguide body (25) and is a function of respective component wavelengths of the multicomponent optical signal, and a substantial portion of the optical signal propagates through the optical amplification medium (see figure 5) and a primary input / output channel (10, 40) defined in the waveguide body (25) and a set of displaced input/ output channels defined in the waveguide body (25), wherein a displacement of each of the displaced input/output channels from the primary input / output channel is defined at least in part by the spectral combiner / divider (see figure 5).



Allowable Subject Matter

4. Claims 8-13, 16, 27-36, 38-47 and 64-66 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose the integrated optical device, wherein the waveguide body comprises a doped waveguide or a doped glass slab as recited in claims 8 and 9; wherein the optical amplification medium comprises a doped waveguide material as recited in claim 10; wherein the spectral combiner/divider is formed in the waveguide body as recited in claim 16; further the integrated optical device comprises a partially transmissive reflector, an optical signal monitor and an optical signal filter positioned along the optical path as recited in claims 27, 33 and 35; wherein the multidirectional path comprises a spiral component as recited in claim 38; a folded spiral

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component as recited in claim 39; wherein the primary input / output channel defines a configuration designed to yield optical signal amplification sufficient to offset optical losses as recited in claim 40; wherein the integrated optical device is configured to enable balance of optical signal amplification and optical losses attributable to the integrated optical device as recited in claim 44; wherein the waveguide body is configured as a sensing region as recited in claim 64.

5. Claims 51-63 are allowed.

Please see the reason for allowance of claims 51-63 in the previous office action.

Response to Arguments

6. Applicant's arguments with respect to claims 2-47 and 51-69 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00 am to 3:30 pm, second Friday off.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JD

March 15, 2006



JENNIFER DOAN
PRIMARY EXAMINER